

A Study on Impact of Capital Structure on Profitability of Indian Companies

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Previously many scholars have concluded that overall capital structure is instrumental in guiding firm's subsequent growth, sustainability and profitability. Financial crisis has aroused lot of interest of researchers to explore the implications of debt in the financial world of the economy. Firms listed on the stock exchange for the years have been successful in gathering the interest of the investors seeking various financial information. Many previous researches have given an indication of presence of the casual relationship between firm's capital structure and its profitability but literature is still lacked by the empirical examination of the same. In this research paper, an attempt is made to analyze the presence of relationship between capital composition and profitability of large companies of India. This study is based on 50 Nifty fifty companies for the period over five years i.e. 2014-2015 to 2018-2019. We have applied correlation and regression in order to study the relationship. Findings of our paper suggests that financial performance of firms is significantly affected by their capital structure and their relationship is negative in nature.

Keywords: Capital Structure, Financial Performance, NSE Nifty 50 index, CFP.

Introduction

SINCE long, many researchers have showed their keen interest in the financial affairs of the companies. Due to financial crisis on stock markets all around the globe, arouse concerns for excessive firm's leverage and its impact on capital profitability. Theoretically, myriad models are discussing how capital structure of the firms designate tax savings, bankruptcy costs, transaction costs, adverse selection, agency cost, etc. as the presiding strand affecting a firm's choice of debt and also its impact on financial performance. In general practice, many firms

have pursued different goals differently but the core objective is to minimized the cost. As debt equity ratio, reflects the ability of shareholder equity to cover all outstanding debts in the event of a business downturn, letting the creditors as well as an investor to be more specific in financing cost of capital over the total cost for the companies listed on stock exchange.

Similarly, to know the expected returns on their risk bearing activities, investors and traders in the stock market are interested to know the relative impact of debt on a firm's performance. On the basis of the ranking and historical prices of stocks listed on stock markets, investors or traders can easily examine the daily performance of the shares in order to decide on the investment of their funds in relation to high performing firms.

In the wake of liberalization and globalization, expansion of investment opportunities as well as financing options have increased the burden of utility on capital market. Even if any of the company wants to expand its capital, multifarious sources can be merged from different form. Also, firms can use either debt or equity capital to finance their assets but combination of both i.e. debt and equity is considered to be ideal options for the company. Nevertheless, one of the most bewilder issues facing by financial managers is to cope up with the relationship between Capital Structure (CS), which is the mix of debt and equity financing, and stock prices, where debt is advantageous (relative to equity) if debt equity ratio ($der > 1$), otherwise it is harmful.

Variations in Capital Structure can be explained by pecking order

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theory (Myers, 1984) Even, where external equity can be seen as most expensive and also dangerous in terms of potential loss of control of the enterprise by the original owner-managers. The information advantage of the corporate managers will be minimized by issuing debt. When there is undervaluation of shares of the company, an optimistic manager, prefer debt over equity issue. With the requirement of increasing external financing within the company, the firm will overlook pecking order, where debts become more riskier, perhaps where convertible securities or preferred stock and finally equity become a last recourse (Myers and Majluf, 1984). New concept of capital structures began to arise with the study of Modigliani and Miller (1958), where (mm) pointed out the conditions, where such theories can be irrelevant in context of CS. Since then, many economists have followed the path and tried to find out the appropriate steps to undergo where this research stands and where it is going. Some researchers may include Taggart (1977), Masulis (1983), Miller (1988), Ravid (1988) and Allen (1991) and comments on Miller (1977) by Bhattacharya (1979), Modigliani (1982), Ross (1977), Stiglitz (1974) and Masulis (1980). Allen (1991) focuses on security design, and Ravid (1988) concentrates on interactions between CS and product market.

This study proceeds with Section II which talk about various previous literature after this section. Section III and Section IV talks about objectives and hypothesis framed for the study in

the light of literature review. Section V gives brief view of the research methodology adopted and the sample used in the study. Section VI presents the results of the study followed by conclusion and suggestions in section VII.

Review of Litterature

The study of Berger, A.N. (2002) reflects that higher profit efficiency is associated with higher leverage base or lower equity capital proportion, thus goes well with the agency cost hypothesis. Although when a company has a very high leverage, the above-mentioned relationship may be reversed due to presence of high outside debt cost. Ownership structure is the premise for profit efficiency, and this is consistent with the agency cost argument. As per Hung's (2002) research findings, there is a positive relation between capital gearing and assets, while capital gearing and profit margin bear a negative association. Pandey (2002) revealed the presence of flat U-shaped (saucer) relationship graph between profitability and capital structure, accommodating external financing cost, agency cost and tax benefit arising due to interest deduction. Along with this, his research study indicated towards a fact that capital structure is positively influenced by tangibility and size while it is negatively affected by growth and risk. Asteriou *et al.* (2002) revealed that capital structure is significantly affected by profitability (net and gross both), total assets and assets utilization growth. Research study by Bhaduri (2002) further pointed towards the effect of cash flow, product factors,

growth, size and industry features in attaining optimal capital structure. Mauritian capital market as a provider of long-term funds for a business proved to be significant from the results of the exogenous variables, namely growth, profitability, age and risk, making results consistent with those of earlier studies along with the trade off theory (Rony *et al.*, 2003).

Sarkar and Zapatero (2003) suggested that in a such competitive atmosphere, profitability is decreasing with the speed of reversion in profitability, which has been proved by the speed of time-series applications. Strebulaev (2003) contended that even though a direct relational be expected between profitability and the optimal leverage ratio but still there is some negative relationship between the same owing to transaction costs, firms do not constantly rebalance their leverage ratios perhaps they allow to move within a range surrounding the optimal leverage ratios. Mesquita and Lara (2003) affirms that optimum proportion of debt and equity not only influence the worth of the firm but also its return rates structure, where such findings indicate that the return rates shows a direct correlation with short-term debt and equity, and negative correlation with long-term debt. Azhagaiah and Premgeetha (2004) suggested that adequate disposal of debt can lay out the preferred financial flexibility of companies with the agenda for growth. This non-debt tax shield with growth rate are statistically significant, which means that these variables are the major determinants of the capital structure of Indian Companies.

Chen and Zhao (2004) suggested that dynamic tax considerations can be considered as most unlikely reason for the inverse relation of profitability with leverage. Deesomsak (2004) focused that capital structure is also influenced by the environment within which it operates along with mapping the strategies influencing firm's CS decision. Loof (2004) suggested an idea that if the firm choose unique combination of asset, the thinner the market is for such assets. Hence, one may expect that uniqueness be inversely related to leverage.

As per Voulgoaris *et al.* (2004) SMEs and LSEs, both groups have profitability as their primary and important factor. While LSEs' debt structure mandates the presence of efficient asset management, whereas credibility of SMEs is affected by current assets' efficiency, large amount of fixed assets and sales growth. Song's (2005) research on Swedish firms pointed towards massive differences that exist in the factors that determine short-term debt and long-term debt, also stated that mostly all factors affecting capital structure as per existing capital structure theories were found significant for firms operating in Sweden. A positive relation between return on equity and proportion of short-term debt to total assets was proved significant in a study by Joshua (2005).

Harrington (2005) supported the theories of capitalization, where profitability is considered as a vital determinant of leverage and concluded that the results of manufacturing firms have a slower mean rate in reversion of

profitability in comparison to the firms operating in a more competitive environment. Huang and Song (2006) surveyed in other countries also, such as Chinese firms, where they concluded that leverage accelerated with firm size and fixed assets, and diminish with profitability, nondebt tax shield, growth opportunity, managerial shareholdings correlate with industries, and found that the ownership or institutional ownership has no significant impact on CS. Tang (2007) found that non-current assets, growth expectations, and the nexus between these two variables are the decisive factor of long-term debt of the lodging industry. Although many studies have been endeavoured in the sphere of capital structure and profitability but very few analyzes has been done to find the impact of capital composition on Profitability.

Objectives

The objective of this study is to measure the impact of capital structure on the profitability of the selected companies. In other words, to identify and analyze the relationship between profitability and capital structure.

Hypothesis

H_0 : There is significant association between the capital structure and profitability of selected top Indian companies.

H_a : There is no significant association between the capital structure and profitability of selected top Indian companies.

Data Base and Research Methodology

Data used in the study is derived from secondary sources. Annual financial statement of the companies is used to form the required data set as annual financial statements are considered the most reliable source of information about the companies. The time period of the study is from assessment year 2014-15 to assessment year 2018-19, i.e. total of 5 years. This study is based on 50 companies forming part of the nifty fifty index. Nifty fifty index is widely used index and covers the Companies across various industries.

For the purpose of measuring capital structure debt-equity ratio is used and for measuring profitability - Return on assets is used. Data for both the variables is collected form annual financial reports of companies available on their websites. Capital structure in this study is used as an independent variable and financial profitability is used as dependent variable.

The Statistical Techniques used for analysis are Pearson's Coefcient of Correlation (to analyze the relationship between CS and Profitability), Regression Analysis (ordinary least squares) to analyze the unique impact of CS on Profitability in addition to descriptive statistics such as Mean, Standard Deviation, and Ratio.

Sample

This study is based on the NSE Nifty fifty index company. This Index is considered as one of major

index reflecting the state of Indian economy. The sample companies are across various industries in order to predict the overall movement of Indian companies. Distribution of companies across

various sectors is given in Figure 1.

Results and Analysis

The results of the study are reported in following section.

First, we talk about descriptive statistics. After that correlation and regression results are analyzed.

Descriptive Statistics

As we can see from Table 1 average ROA among the sample is 11.68 per cent among the sample and the average Debt/equity ratio is 0.4966 indicating that approximately Indian firms are characterized by equal funding of both debt and equity. The maximum and minimum values for debt/equity ratio indicate that there is high level of variability of the debt/equity composition among the Indian companies.

Correlation and Regression Analysis

Table 2 represents the correlation matrix and Table 3 reports regression analysis results. As it can be seen from Table 2 that correlation between ROA and Debt Equity ratio is -0.347. It indicates that relationship between debt equity ratio and ROA is negative. In other words, an increase of debt in capital structure leads to fall in profitability. However, this negative correlation is weak. From Table 2 we can conclude that since our value of p is less than 0.05, the negative impact of debt equity ratio on ROA is significant. This leads to the acceptance of our null hypothesis that there is a significant association between the capital structure and profitability of selected top Indian companies. Our result is consistent with prior studies.

FIGURE 1

DISTRIBUTION OF SAMPLE COMPANIES ACROSS VARIOUS INDUSTRIES

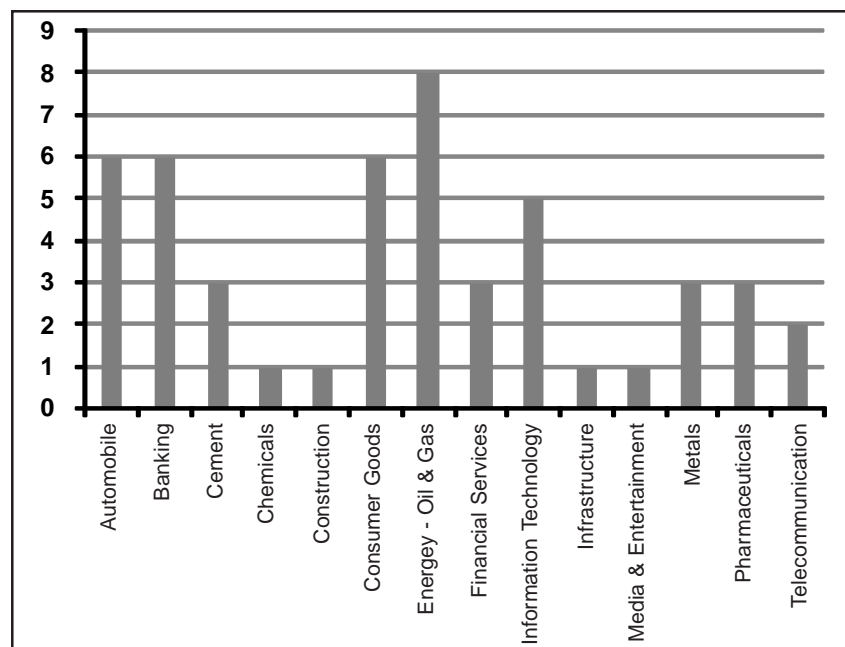


TABLE 1

DESCRIPTIVE STATISTICS

| Particulars | ROA | Debt-equity Ratio |
|-------------|-----------|-------------------|
| Mean | 11.68202 | 0.496667 |
| Median | 8.460000 | 0.110000 |
| Maximum | 77.61000 | 4.990000 |
| Minimum | -20.44000 | 0.000000 |
| Std. Dev. | 11.94074 | 0.984702 |
| Skewness | 2.173251 | 3.162608 |
| Kurtosis | 11.22816 | 12.92525 |

TABLE 2

CORRELATION MATRIX

| | ROA | Debt-equity |
|-------------|--------|-------------|
| ROA | 1 | -0.347 |
| Debt-equity | -0.347 | 1 |

TABLE 3
RESULTS OF REGRESSION ANALYSIS

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|----------|
| Debt-equity | -4.207992 | 0.710795 | -5.920123 | 0.0000 |
| C | 13.77198 | 0.782700 | 17.59548 | 0.0000 |
| R-squared | 0.120420 | Mean dependent var | | 11.68202 |
| Adjusted R-squared | 0.116984 | S.D. dependent var | | 11.94074 |
| S.E. of regression | 11.22059 | Akaike info criterion | | 7.681099 |
| Sum squared resid | 32230.80 | Schwarz criterion | | 7.708641 |
| Log likelihood | -988.8618 | Hannan-Quinn criter. | | 7.692174 |
| F-statistic | 35.04785 | Durbin-Watson stat | | 0.203044 |
| Prob (F-statistic) | 0.000000 | | | |

Conclusion

Our study examines the effect of capital structure i.e. debt equity mix ratio of capital structure on firm's economic performance. The results report negative correlation between capital structure and financial performance of the firm. In other words, there is negative and significant impact of debt on firm's profitability. With an increase in debt firms profitably reduces. Thus, firms should keep a check on an increase in the debt portion of their capital structure as this will not only adversely impact the firm's performance but also leads to an increase in risk (financial leverage) and expose the firm towards control issues. Thus, our study suggests to the management to follow optimal capital structure which includes debt but not high proportion or 100 per cent of debt. It will reduce the risk of bankruptcy of the firm.

However, this study suffered from following limitations: *Firstly*, in this study we have used only one proxy for measurement of capital structure and corporate performance. More variable can be used

for the measurement of both. *Secondly*, database of larger no. of companies might give better results. *Thirdly* we can find the impact of capital structure on firm's financial performance by sector and then compare the results to know the real picture of the relationship.

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